Salt replacement therapy and Cystic Fibrosis

Why do people with Cystic Fibrosis need extra salt?

All people with Cystic Fibrosis (CF) lose large amounts of sodium and chloride (the two compounds that make up salt) in their sweat. This loss increases with exercise, fevers, infections and hot weather.

Sodium is the major electrolyte found in body fluid. It regulates the amount of water in the blood and tissues. Sodium is important for conducting nerve impulses, muscle contraction and growth.

The CF sweat gland is unable to absorb salt back into the blood. This leaves large amounts of salt in their sweat. Because the level of salt in the blood does not rise, the body does not recognise thirst. This leads to a higher risk of dehydration. To prevent dehydration, people with CF need to replace both salt and fluid.

Signs and symptoms of salt depletion

- Fatigue, irritability, headaches
- Poor concentration
- Salt crystals on the skin
- Nausea, vomiting, decreased appetite
- Muscle cramps
- Hyponatraemia (low blood sodium)
- Thicker, harder to expectorate sputum
- Thicker secretions in the bowel leading to potential blockages.

Recommended doses of sodium

Salt requirements for CF vary based on symptoms, dietary intake, living climate and activity level. Approximate daily requirements are:

- Infants: 500mg (¼ tsp / day)
- Children: up to 4000mg (2 tsp / day)
- Adolescents: 6000mg (3 tsp / day)

Assume a regular diet already contains the equivalent of 1 teaspoon of salt a day.

Getting extra salt in the diet

The easiest way to consume extra salt is by adding salt and eating foods naturally high in salt. Try to include the following foods daily:

- Vegemite, butter, margarine
- Cheese
- Pretzels, salted biscuits, salted nuts
- Hot chips or potato crisps
- Tomato, barbeque and soy sauce
- Gravy and dressings
- Processed meats like devon, salami, sausages, ham and bacon
- Pizza
- Olives and pickles
• Canned fish in brine
• Frozen or tinned meals
• Packet pasta, 2 minute noodles

Salt supplements
Salt tablets, salt filled gel caps and electrolyte drinks (e.g. Glucolyte, Gastrolyte, Pedialyte) can help prevent dehydration. These supplements create thirst to encourage fluid intake.

Sodium content of common supplements:
• 360 mg in 600mL of Glucolyte
• 240 mg in one salt tablet
• ~ 500 mg in one salt filled gel cap
• 2000 mg in just 1 tsp of table salt

Sport drinks have less sodium (between 150-240 mg per 600mL) than other electrolyte drinks. Some salt drinks are high in sugar so good dental hygiene is important. Nutritious fluids like milk also help prevent dehydration. Milk will also provide extra calories required.

Tips to get more salt
• Travel with extra salt and water bottle
• Pack a salt shaker in the lunch box
• Use plenty of sauces and gravies
• Choose the ‘salted’ varieties of foods
• Try freezing your electrolyte drink into ice blocks

• Crush salt tablets or use table salt in your electrolyte drink – freezing this will make an icy slushy
• Add salt generously to savoury foods

Even more salt may be required!
• In infancy as requirements are increased during rapid growth
• During periods of illness due to reduced intake and increased losses
• When dietary intake is decreased and/or replaced by oral supplements or tube feeds with low sodium content
• Before additional physical activity
• When holidaying/living in hot climates

Things I can do to increase salt intake:
1. __________________________
   __________________________
2. __________________________
   __________________________
3. __________________________
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Reference: